

Alnus incana Swamp Shrubland [Provisional] (Speckled Alder Swamp)

COMMON NAME	Speckled Alder Swamp Shrubland
SYNONYM	Speckled Alder Swamp
PHYSIOGNOMIC CLASS	Shrubland (III)
PHYSIOGNOMIC SUBCLASS	Deciduous shrubland (III.B)
PHYSIOGNOMIC GROUP	Cold-deciduous shrubland (III.B.2)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (III.B.2.N)
FORMATION	Seasonally flooded cold-deciduous shrubland (III.B.2.N.e)
ALLIANCE	ALNUS INCANA SEASONALLY FLOODED SHRUBLAND ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM PALUSTRINE

RANGE

Voyageurs National Park

This community type occurs throughout the park in isolated low areas surrounded by uplands or as a ring around the edge of less minerotrophic peatlands.

Globally

This alliance is widespread in the Midwest and Northeast United States.

ENVIRONMENTAL DESCRIPTION

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The Speckled Alder Swamp occurs in isolated low areas surrounded by upland or as a ring around the edge of less minerotrophic peatlands. Stands can occur on deep peats, shallow peats, or mineral soils where drainage is impeded by clay or dense glacial till. Depending on substrate and topographic placement, they can be temporarily or seasonally flooded or remain saturated throughout the growing season.

Globally

Sites are typically located along streams, lakeshores, edges of beaver meadows, swales associated with small streams in peatlands or upland forests, or near seeps. Most have little to no slope, but some sites are on moderate slopes. Hydrologic conditions can range from temporarily flooded to semipermanently flooded. The water that affects this alliance is non-stagnant, nutrient rich, and often slightly calcareous (Curtis 1959). Soils are wet, often mucks or peats (Anderson 1982, Chapman *et al.* 1989).

MOST ABUNDANT SPECIES

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<u>Stratum</u>	<u>Species</u>
Tall shrub	<i>Alnus incana</i>
Short shrub	<i>Rubus pubescens</i>
Graminoid	<i>Carex lacustris</i> , <i>Calamagrostis canadensis</i> , <i>Typha</i> spp.
Nonvascular	<i>Sphagnum centrale</i> , <i>Sphagnum girgensohnii</i> , <i>Sphagnum magellanicum</i> , <i>Mnium</i> spp., <i>Drepanocladus</i> spp., <i>Climacium dendroides</i>

Globally

<u>Stratum</u>	<u>Species</u>
Tall shrub	<i>Alnus incana</i>
Graminoid	<i>Calamagrostis canadensis</i>

CHARACTERISTIC SPECIES

Voyageurs National Park

Alnus incana

Globally

Alnus incana, *Calamagrostis canadensis*

VEGETATION DESCRIPTION

USGS-NPS Vegetation Mapping Program
Voyageurs National Park

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Alnus incana shrubs, usually around 2 m tall, usually form a dense canopy in this community. *Salix* spp. and *Betula pumila* may also occur at low cover in the shrub layer with *Alnus incana*. There is a wide variation in the composition of the herbaceous and nonvascular strata largely as a result of the wide range of environmental conditions where this community can exist. In most circumstances, the herbaceous layer ranges from 30-90% and is dominated by *Calamagrostis canadensis*, *Carex lacustris*, *Rubus pubescens*, *Typha* spp., *Potentilla palustris*, and *Calla palustris*. Some examples of this type contain a nearly continuous carpet of *Sphagnum* spp. moss. In these situations, *Chamaedaphne calyculata* may be found as a dwarf-shrub, and the herbaceous layer may also contain species associated with *Sphagnum* spp. (e.g. *Carex trisperma*, *Carex disperma*, *Maianthemum trifolium*). In situations lacking *Sphagnum* spp., the associated species are lacking as well and the nonvascular stratum is minor and consists of *Mnium* spp., *Drepanocladus* spp., and *Climacium dendroides*.

Globally

The vegetation is dominated by tall shrubs, 2-8 meters tall, with a moderately open to dense shrub canopy. There is an understory of shorter shrubs and herbaceous species. The density of the understory varies inversely with the tall shrub canopy. The overstory is usually overwhelmingly dominated by *Alnus incana*, but where it is not as dominant, other shrubs, such as *Cornus sericea*, *Rubus idaeus*, *Salix* spp., *Spiraea alba*, and *Viburnum* spp., can be found. The herbaceous layer contains species such as *Aster simplex*, *Calamagrostis canadensis*, *Caltha palustris*, *Carex lacustris*, *Carex prairea*, *Eupatorium maculatum*, *Impatiens capensis*, *Lycopus uniflorus*, *Scirpus atrovirens*, *Symplocarpus foetidus*, *Thelypteris palustris*, and *Typha* spp. Mosses include *Climacium dendroides*. Where the tall shrub canopy is open, the graminoids can become dense. Trees are found in many stands, including *Acer rubrum*, *Fraxinus nigra*, and *Thuja occidentalis* (Anderson 1982, Curtis 1959, Harris *et al.* 1996, Minnesota NHP 1993).

CONSERVATION RANK G5?

DATABASE CODE Cegl002381

COMMENTS

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The diagnostic feature of the type is a tall shrubland dominated by *Alnus incana*. The type is analogous to Ontario's W35 (Harris *et al.* 1996). In situations where willow or bog birch become more dominant, this community grades into the Dogwood-Pussy Willow Swamp or the Bog Birch-Leatherleaf Poor Fen. In non-peatland situations, the Speckled Alder Swamp can have <25% *Fraxinus nigra* canopy over the alder shrub layer. The Black Spruce/Alder Rich Swamp, the Black Spruce-Tamarack Poor Swamp and the Tamarack/Speckled Alder Forest all can resemble the Speckled Alder Swamp but differ in that they contain greater than 25% cover of conifers in the canopy. Likewise, the cedar types (White Cedar-Mixed Conifer/Alder Swamp and White Cedar-Tamarack Peat Swamp) may contain a shrub layer of alder but must have at least 25% cover of conifers in the canopy.

Basins with water levels controlled by beavers can experience fluctuating water levels. Alder often persists after trees such as black spruce or cedar have died from the rising water levels. Outside the park, the Speckled Alder Swamp can be found in wetlands (including peatlands) that have been recently logged.

REFERENCES